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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR		ATTORNEY DOCKET NO.
09/281,059	03/09/99	ASAO	Y	Q53539

MM22/0203

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EXAMINER	
PEREZ,G	
ART UNIT	**PAPER NUMBER**
2834	

DATE MAILED: 02/03/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No.	Applicant(s)	
	09/281,059	ASAO ET AL.	
	Examiner	Art Unit	
	Guillermo Perez	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11)☒ The proposed drawing correction filed on *10 November 1999* is: a)☒ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a)☐ All b)☐ Some * c)☐ None of the CERTIFIED copies of the priority documents have been:

1.☐ received.

2.☐ received in Application No. (Series Code / Serial Number) _____ .

3.☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

14) ☒ Notice of References Cited (PTO-892)
15) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
16) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6 .
17) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
18) ☐ Notice of Informal Patent Application (PTO-152)
19) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. Claims 1 to 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Prior Art (APA) in view of Hiroshima et al. (U.S. Pat. No. 5, 174, 013) and further in view of Harris et al. (U.S. Pat. No. 5, 539, 265).

APA discloses a rotor (1) for an automobile alternator comprising: a pair of field cores (12a, 12b) each having a cylindrical base portion (121a, 121b) and a plurality of claw-shaped magnetic poles (122a, 122b) projecting from the outer circumferential edges of said base portions (121a, 121b), said field cores (12a, 12b) being secured to a rotating shaft (11) facing each other such that the end surfaces of said base portions (121a, 121b) are in close contact with each other and said claw-shaped magnetic poles (122a, 122b) intermesh with each other; a cylindrical bobbin (16) having a cylindrical portion (16a) and a pair of first and second annular flange portions (16b) projecting perpendicularly from both ends of said cylindrical portion (16a), said bobbin (16) being fitted over said base portions (121a, 121b) of said pair of field cores (12a, 12b); and a field winding (15) wound a predetermined number of turns into multiple layers on said cylindrical portion of said bobbin. However, APA does not disclose that said field winding has a flat shape in which a pair of opposite flat surfaces are parallel, said field winding being wound onto said cylindrical portion of said bobbin such that said pair of opposite flat surfaces face the inner circumferential side and the outer circumferential side, respectively, relative to the radial direction; nor a vibration-suppressing ring fitted

on the inner circumference of said claw-shaped magnetic poles of said pair of field cores.

Hiroshima et al. disclose that said field winding (4b) has a flat shape (figure 4) in which a pair of opposite flat surfaces are parallel (figure 7), said field winding being wound onto said cylindrical portion of said bobbin such that said pair of opposite flat surfaces face the inner circumferential side and the outer circumferential side, respectively, relative to the radial direction for the purpose of increasing winding density of the coil.

Harris et al. (U.S. Pat. No. 5, 539, 265) disclose a vibration-suppressing ring (33) fitted on the inner circumference of said claw-shaped magnetic poles (12 and 14) of said pair of field cores for the purpose of preventing vibration of the fingers of pole pieces as the rotor assembly rotates within the alternator assembly as a whole.

It would have been obvious at the time the invention was made to modify the rotor of APA and provide it with field winding having a flat shape, in which a pair of opposite flat surfaces are parallel, said field winding being wound onto said cylindrical portion of said bobbin such that said pair of opposite flat surfaces face the inner circumferential side and the outer circumferential side, respectively, relative to the radial direction, as disclosed by Hiroshima et al.; and with a vibration-suppressing ring fitted on the inner circumference of said claw-shaped magnetic poles of said pair of field cores, as disclosed by Harris et al. (U.S. Pat. No. 5, 539, 265) for the purpose of

maximizing the winding density of the coil and to minimize motor vibrations during operation.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over APA in view of Hiroshima et al. and further in view of Harris et al. (U.S. Pat. No. 5, 892, 313).

APA and Hiroshima et al. disclose a rotor as described on item 1 above. However, neither APA nor Hiroshima et al. disclose permanent magnets fitted between said claw-shaped magnetic poles of said pair of field cores.

Harris et al. (U. S. Pat. No. 5, 892, 313) disclose permanent magnets (34) fitted between said claw-shaped magnetic poles (12 and 14) of said pair of field cores for the purpose of increasing power output without increasing the physical size of the machine.

It would have been obvious at the time the invention was made to modify the rotor of APA and Hiroshima et al. and provide it with permanent magnets fitted between the claw-shaped magnetic poles of a pair of field cores, as disclosed by Harris et al. (U. S. Pat. No. 5, 892, 313) for the purpose of increasing the power output of the machine without increasing the size of the machine.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. H. Meier (U.S. Pat. No. 3, 320, 788) teaches the manufacture of an electrical coil in which the wires are of a flat shape configuration (figures 1 and 3).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guillermo Perez whose telephone number is (703) 306-

5443. The examiner can normally be reached on Monday through Thursday and alternate Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-5841 for regular communications and (703) 308-5841 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

GP
January 31, 2000

NESTOR RAMIREZ
SUPERVISORY PATENT EXAMINER
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